

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

LEIGHTON TECHNOLOGIES LLC,

Plaintiff,

vs.

OBERTHUR CARD SYSTEMS, S.A. and
OBERTHUR CARD SYSTEMS OF
AMERICA CORPORATION,

Defendants.

OBERTHUR CARD SYSTEMS, S.A. and
OBERTHUR CARD SYSTEMS OF
AMERICA CORPORATION,

Counterclaim Plaintiffs,

vs.

LEIGHTON TECHNOLOGIES LLC,
GENERAL PATENT CORPORATION
INTERNATIONAL, GENERAL PATENT
CORPORATION, and IP HOLDINGS LLC,

Counterclaim Defendants.

Case No: 04 CV 02496 (CM) (LMS)

**DEFENDANTS' MOTION FOR
SUMMARY JUDGMENT OF
NONINFRINGEMENT**

**MEMORANDUM OF POINTS AND
AUTHORITIES**

Hon. Coleen McMahon

Magistrate Judge Lisa M. Smith

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Oberthur Card Systems, S.A. and Oberthur Card Systems of American Corporation (collectively "Oberthur") respectfully submit this Memorandum in support of their motion, pursuant to Fed. R. Civ. P. 56, for an Order that the accused cards manufactured by Oberthur do not infringe the asserted claims of U.S. Patent Nos. 5,817,207 (the "'207 patent") and 6,214,155 (the "'155 patent") (the "Leighton Patents," Exs. 1 and 2 to the Declaration of Kevin P.B. Johnson).

Leighton Technologies LLC ("Leighton Tech") is asserting ten claims of two patents in this case: claims 1, 4, 6-7, and 16 of the '207 patent, and claims 1, 4, 6-7, and 15 of the '155 patent. Pursuant to the Stipulation and Order dated July 25, 2006, Leighton Tech agreed to dismiss, without prejudice, two of the four patents it originally asserted in this case. (Ex. 3.)

L. INTRODUCTION

The Leighton Patents relate to the manufacture of plastic "smart cards," which include an electronic element that communicates with a card reader using radio frequency identification ("RFID") technology. *Leighton Techs. LLC v. Oberthur Card Sys., S.A.*, 358 F. Supp. 2d 361, 369 (S.D.N.Y. 2005) (Ex. 4.) Leighton Tech does not contend that it was the first to manufacture a smart card, nor does it contend that it owns the design or structure of any particular electronic element, such as a chip and antenna assembly. (See Ex. 1, 3:53-54; Ex. 5, *Markman* Tr. 6:7-16.)

Rather, Leighton Tech asserts that the patents claim an improved lamination process over the prior art because the claimed process steps allow for a simplified card structure. This simplified card structure has two key features: (1) there is no need to protect the electronic element using any of the "non-electronic carriers" (including a recess) set forth in the prior art; and (2) the "electronic element" is positioned "directly between . . . first and second plastic core sheets to form a core."

Summary judgment of noninfringement is appropriate here because Oberthur's cards do not contain these claim limitations. The structure of Oberthur's cards is different from that required by

the patent claims because: (1) the electronic element, a chip and associated antenna, *is not placed directly between the core sheets*, and (2) *the cards contain a recess* – a non-electronic carrier. In all of Oberthur's cards, the chip is positioned directly below a recess or hole that is cut out of an adjacent plastic sheet. Oberthur's recess creates a barrier around the electronic element, which protects the element from damage during lamination. As explained below, these two features of Oberthur's cards are diametrically opposed to the intended objectives and requirements of the Leighton Patent claims.

This is demonstrated most pointedly by the way in which Leighton Tech attempts to construct an infringement position, even one at odds with the intrinsic evidence. On November 21, 2006, Leighton Tech provided the final version of its technical expert report on its infringement contentions. In that report, Leighton Tech cannot and does not dispute that the recess in Oberthur's cards is a non-electronic carrier that protects the chip during lamination. Such an argument would, of course, contradict this Court's *Markman* ruling. However, to assert some theory of infringement, Leighton Tech separates the chip and antenna assembly in Oberthur's cards into "separate" electronic elements, and contends that because there is allegedly no recess or protection for the antenna, Oberthur's cards are covered by the claims.

In addition to being a self-serving interpretation of this Court's construction for "electronic element," Leighton Tech's infringement theory directly contradicts the claims and specification of the Leighton Patents. Six of the asserted dependent claims specifically refer to a chip and antenna combination. The claims refer to a "micro-chip and associated wire antenna" as "one electronic element." For example, claim 12, which depends from claim 1, states that the phrase "one electronic element" used in claim 1 "is a micro-chip and an associated circuit board antenna." In contrast, none of the Leighton patent claims refers to a chip and antenna as separate electronic elements.

Moreover, the only three electronic elements that are specifically disclosed by way of drawings in the specification of the Leighton Patents are an electronic element "provided by a micro-chip 22 *including a wire antenna 24 connected thereto.*" (Ex. 1, 3:46-52.) Although Leighton Tech would like to separate the chip and associated antenna into two electronic elements, that position is in direct conflict with the patent claims, the drawings and the specification.

Even if Leighton Tech is correct that under the Court's *Markman* ruling the chip and antenna are separate elements, the recess in Oberthur's cards actually protects both. To prove this, Oberthur's technical expert, Dr. David O. Kazmer, designed tests in which cards were made using Oberthur's actual lamination process, but without a recess to protect the electronic element. As set forth in the accompanying Kazmer Declaration, without the protective recess the connection between the chip and the antenna is fatally damaged during lamination, rendering the cards non-functional.

Leighton Tech's position treats the two Oberthur card types at issue in this case, called the "Amex" and "Xenon" cards, identically for infringement purposes. But in fact, their antenna structures are quite different, and their structures fall outside the claims for different, additional reasons. In the Xenon cards, the antenna is without question protected by a non-electronic carrier – it is embedded into a plastic sheet by an ultrasonic process prior to lamination. In the Amex cards, the antenna is not damaged during lamination because it has a thin, flat profile.

Because Oberthur's cards are missing two explicit and critical requirements of the Leighton Patent claims, this motion for summary judgment of noninfringement should be granted.

II. STATEMENT OF FACTS

A. The Leighton Patents

The Leighton Patents describe processes for making smart cards, and claim the use of a "highly coordinated" lamination process involving heat, cooling and the application of pressure to

encapsulate an electronic component essential to signal transmission. *Leighton*, 358 F. Supp. 2d at 364. The patents allegedly are an improvement over the prior art by eliminating the need to create a protective barrier around the embedded electronic element, thereby simplifying the manufacturing process. (*Id.*; see also Ex. 11, Leighton 10/23/06 Tr. 793:3-794:7.)

The Patent Specification. The two patents-in-suit share a common specification. The "Background of the Invention" section of the specification explains that "[o]ne of the biggest obstacles to the wide spread manufacture and use of RFID cards has been the inability of card manufacturers" to make cards that are "sufficiently aesthetically pleasing" and "have a sufficiently regular or flat surface," which can receive "dye sublimation" printing. (Ex. 1, 1:61-2:14.) In other words, the presence of an electronic element complicates the card manufacturing process.

In the section titled "Detailed Description of the Invention," the specification describes the various forms that the electronic elements can take. The section begins by depicting Figure 1 (set forth below), and states: "Referring now to FIG. 1, there can be seen a plastic RFID card 10 manufactured in accordance with the present invention and including an *electronic element* 20 embedded therein." (*Id.* at 3:42-45.) (emphasis added). In this Figure, the electronic element is the chip and antenna combination shown by the dotted line.

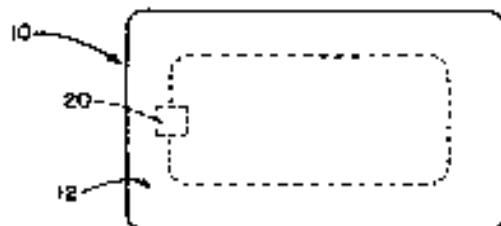
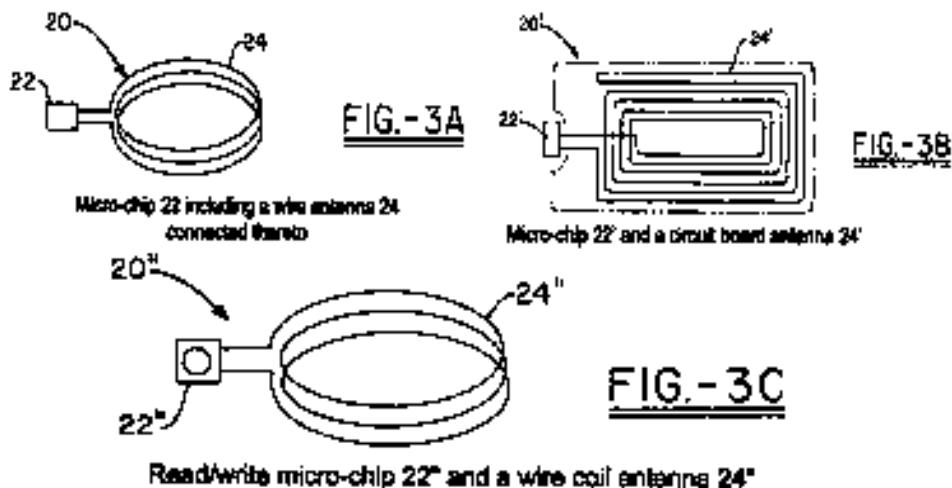


FIG. - 1

The specification then explains that the electronic element "may take a wide variety of forms and perform a wide variety of functions." It describes three figures that depict a specific electronic element, consisting of a chip and antenna combination:

As shown in Fig. 3A-3C respectively, electronic element 20, 20', 20" may be provided by a micro-chip 22 including a wire antenna 24 connected thereto, a micro-chip 22' and a circuit board antenna 24', a read/write micro-chip 22" and a wire coil antenna 24", or any other suitable electronic element.

(*Id.* at 3:48-52.) Figures 3A, 3B, and 3C are set forth in the specification as follows:



The specification explains in the next sentence that "[t]hese electronic elements 20, 20', and 20" and their insertion into plastic cards is not new . . ." and that Leighton Tech provides a "new hot lamination process for manufacturing plastic cards 10 with these electronic elements 20, 20', and 20" embedded therein such that the cards 10 are of a superior quality . . ." (*Id.* at 3:53-58.)

The specification goes on to describe one procedure for making cards with embedded electronic elements. It explains that "a plurality of electronic elements 20 are positioned between the first and second sheets of plastic core stock 30, 32 . . ." (*Id.* at 4:4-6.) This is shown in Figure 5:

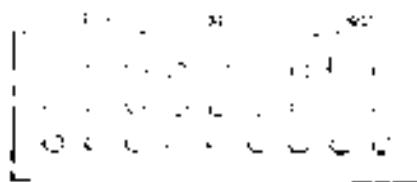


FIG. - 5

The specification shows in Figure 6 a side view of the sandwich of core sheets and multiple electronic elements¹:



FIG. - 6

The specification explains that “[w]hen a plurality of electronic elements 20 are positioned between first and second sheets [of] plastic core stock 30, 32, electronic elements 20 are properly positioned relative to one another such that a plurality [of] cards may be cut from the resulting card stock” (*Id.* at 4:7-11.) The steps of the lamination process are then performed, as set forth in the patent specification, and as described in the Court’s *Marionan* ruling. *Leighton*, 358 F. Supp. 2d at 367-68.

The Leighton Patent Claims. Of the ten claims asserted by Leighton Tech, four are independent – claims 1 and 16 of the ‘207 patent, and claims 1 and 15 of the ‘155 patent. These pairs of independent claims in the two patents are nearly identical. The only difference is that each of claims 1 and 16 of the ‘207 patent contain an additional limitation relating to printing. All four of the independent claims require that “at least one electronic element” be positioned directly between two plastic core sheets. Claim 1 of the ‘207 is set forth by example (Ex. 1, emphasis added):

1. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:
 - (a) providing first and second plastic core sheets;

¹ At this point in the process, just after the sandwich of electronic elements and core sheets has been formed, there is not yet any encapsulation of the electronic elements (the patents depict encapsulated electronic elements using a dashed line (see Figs. 8-10) and non-encapsulated elements, such as shown in Figure 6, using a solid line).

- (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;
- (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
 - (i) heating said core for a first period of time;
 - (ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
 - (iii) cooling said core while applying a second pressure to said core,
- (d) coating at least one of said outer surfaces of said core with a layer of ink; and
- (e) applying a layer of overlaminant film to at least one of said outer surfaces of said core.

Six dependent claims in the '207 and '155 patents specifically define the phrase "at least one electronic element" to consist of a chip *and* an antenna associated with that chip. Dependent claims 13, 14, and 15 in the '207 patent state as follows (Ex. 1, emphasis added.):

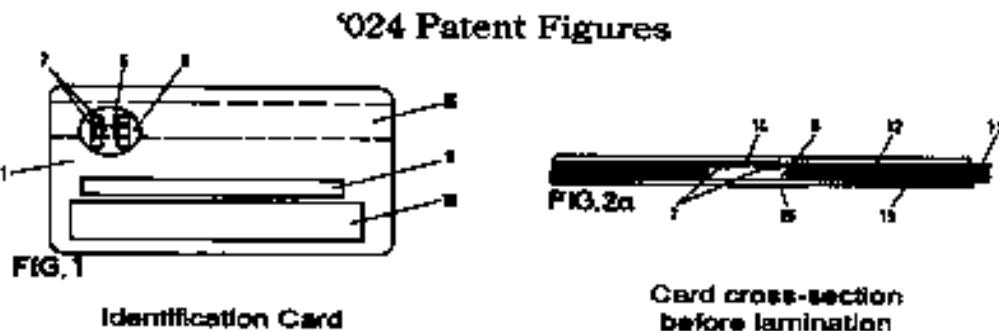
13. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein *said at least one electronic element is a micro-chip and an associated wire antenna*.

14. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein *said at least one electronic element is a micro-chip and an associated circuit board antenna*.

15. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein *said at least one electronic element is a read/write integrated chip and an associated antenna*.

The comparable dependent claims in the '155 patent, claims 11-13, are identical – they define the "at least one electronic element" in exactly the same way: as a "*micro-chip and an associated wire antenna*" (claim 11), a "*micro-chip and an associated circuit board antenna*" (claim 12), and a "*read/write integrated chip and an associated antenna*" (claim 13). None of the other claims of either patent defines the "at least one electronic element" in any other way.

The Prosecution History of the Leighton Patents. As this Court has found, the absence of a non-electronic carrier "is the critical improvement of these patents over [the] prior art, specifically over U.S. Patent No. 4,450,024 [the "'024 patent"], which required protection for the electronic element during lamination." *Leighton*, 358 F. Supp. 2d at 369. As shown below in Figures 1 (a finished identification card) and 2a (a cross-section of the card before lamination), the '024 patent disclosed that an "IC module" (item 5 in Figure) was placed in a "carrier element" (item 6) to protect it from damage during lamination (Ex. 25.):



The '024 patent also "describe[d]" a "process for lamination" that is "similar" to that described in the Leighton Patents. *Leighton Tech v. Oberthur*, 423 F. Supp. 2d 425, 427 (S.D.N.Y. 2006) (Ex. 26.)

To overcome the prior art '024 patent, Leighton amended his claims to specifically include a claim limitation requiring the absence of a non-electronic carrier. *Leighton*, 358 F. Supp. 2d at 369. For example, Claim 1 was amended as follows (new matter underlined, and deleted matter in brackets):

1. A [hot lamination] process for incorporating at least one electronic element in the manufacture of a plastic card, [said process] comprising the steps of:
 - (a) providing first and second plastic core sheets;
 - (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second

plastic core sheets to form a [layered] core, said plastic core sheets defining a pair of inner and outer surfaces of said core . . .

(Ex. 9, at 1.) (emphasis added) After making these amendments, Leighton then argued that the amended claims of the application were patentable over the '024 patent because they lacked the "protective elements," such as a recess, used in the '024 patent (*Id.* at 6.):

The '024 patent claims a lamination process for making an electronic card which protects the electronic element of the card by first placing it in a recess formed within a card layer so as to avoid damage to the electronic element from localized pressure applied in the lamination process. The patent then requires that a "buffer zone" be present within the recess. Even the broadest of claims of the '024 patent require a recess and a buffer zone, for and protecting the electronic element. These are required by the '024 patent invention in order to enable the card assembly to be subjected to a full laminating pressure.

No such protective elements are desired or necessary to the invention of the present application

. . . The process of the present invention allows the electronics-containing core to be subjected to the full laminating pressure without use of a recess in a card layer. Unlike anything shown in the prior art, the electronic unit is placed directly between two (2) plastic sheets

The Examiner allowed the claims to issue after receiving Leighton's amendment and argument explaining why its process eliminated the need for non-electronic carriers to protect electronic elements, such as the chip and antenna combination disclosed in the specification and claims.

B. This Court's *Markman* Ruling

Leighton Tech confirmed during the *Markman* hearing that the elimination of this protective element was "novel and something new" and "the main reason why the first patent, the '207 patent, issued." (Ex. 12, *Markman* Tr. 59:16-60:21.) The Court's construction of three claim terms relevant to this motion are set forth in the following table (the other construed terms relate to limitations not at issue on this motion):

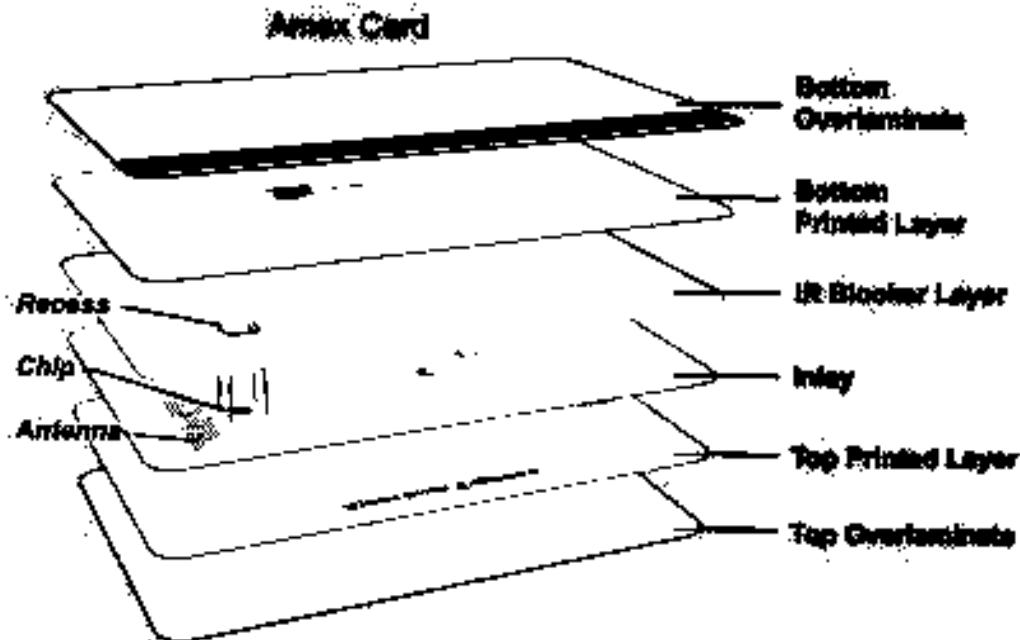
| Claim Term | The <i>Markman</i> Ruling |
|--|--|
| at least one "electronic element" | "A device or thing that has distinct characteristics related to electricity, and that also has terminals at which it may be connected to other distinctly electrical devices or things in order to form a circuit, in which electrons move through devices called semiconductors." <i>Leighton</i> , 358 F. Supp. 2d at 370. |
| in the absence of a "non-electronic carrier" | "A device that holds an electronic element to protect it from physical damage during lamination, where the device is not part of a circuit that utilizes a semiconductor device." <i>Id.</i> at 376. |
| "directly between said first and second plastic core sheets" | "In immediate physical contact." <i>Id.</i> at 377. |

As discussed below, two of these essential features (the "non-electronic carrier" and "directly") are absent in the Oberthur cards that Leighton Tech accuses of infringement in this case.

C. The Oberthur Cards Accused of Infringement

The accused Oberthur cards fall into two categories: (1) cards manufactured for American Express (the "Amex cards"), and (2) cards manufactured for others, such as the Xenon Cards. To simplify the issues in this case, the parties executed a stipulation regarding the structure and manufacturing processes used to make the accused Oberthur cards. (Ex. 27.) Although different in some respects, both cards share a common structural feature that goes to the central issue in this case: they both contain a recess or hole in the plastic layer above the electronic element that protects this element during lamination.

The American Express Cards: The American Express cards manufactured by Oberthur contain six plastic layers from top to bottom: (i) a top overlaminate layer; (ii) a top printed layer; (iii) an inlay layer with an embedded antenna and a chip module that extends downward; (iv) an IR blocker layer; (v) a bottom printed layer; and (vi) a bottom overlaminate layer. (Ex. 27, at 2-3.) This structure is set forth in the figure below, and is also evident from the sample unlaminated Amex cards attached as Exhibit 13 to the Johnson Declaration:



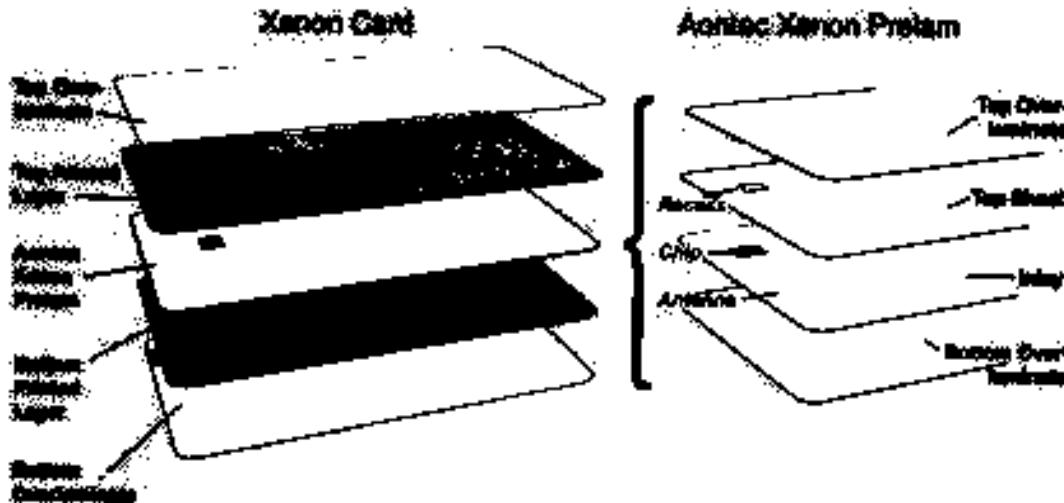
To make a unique aesthetically pleasing card, the top and bottom printed layers in the Amex cards are transparent. Because these layers are transparent, an IR Blocker is used so that infrared sensors can detect the presence of Amex cards. (Ex. 14, at OCS_F_070469.) As a result, early development versions of the Amex cards did not contain a hole or recess in the IR blocker layer, and many of them did not work after lamination because the electronic element had been damaged. (See Ex. 15, at OCS_A_039725, 039729.)

In an attempt to solve this problem, Oberthur and its co-developers decided to punch a hole in the IR blocker "into which the chip is nestled during tacking to eliminate stress on the chip during lamination." (Ex. 16, at OCS_A_039754.) The Amex card developers concluded that they "need [a] hole in the IR blocker to avoid broken die and get a reliable card." (See Ex. 15, at OCS_A_039729.) Accordingly, before lamination Oberthur punches this hole in the IR blocker layer to "match the position of the chip in the finished card." (Ex. 17, at OCS_A_009388.) Finally, Oberthur laminates

the plastic layers of the Amex cards set forth above into a finished card. (Ex. 18, Mosteller 2/24/06 Tr. 96:1-7.)

The Cards for Project Xenon: The Xenon cards are made in two phases. First, a plastic "prelam" sandwich is laminated that houses an embedded electronic element – the chip and antenna. (Ex. 27, at 4-7.) From top to bottom, the Xenon prelams contain at least four layers: a top overlaminate layer; a top layer having a recess that is positioned directly above the chip module; an inlay layer with an antenna and a chip module that extends upwards; and a bottom overlaminate layer. (*Id.*) Like the IR blocker layer in the Amex card, the top layer in the prelam contains a recess directly above the chip to protect the chip during lamination. (*Id.* at 5, 7.) As shown by the unlaminated prelams attached to the Johnson Declaration, before lamination the top of the chip does not contact the top overlaminate layer. (Exhs. 19 and 20.)

Oberthur then assembles and laminates the prelams into finished Xenon cards after adding additional layers. (See *id.* at 7-8.) From top to bottom, the finished Xenon cards consist of five layers: (i) a top overlaminate layer; (ii) a top printed layer; (iii) the prelam; (iv) a bottom printed layer; and (v) a bottom overlaminate layer. (*Id.*) This structure is set forth in the figure below, and is also evident from examination of the unlaminated Xenon cards attached as Exhibit 21 to the Johnson Declaration:



Oberthur has laminated the Xenon cards using two laminators – a laminator manufactured by Lauffer, and the same Burkle laminator used for laminating the Amex cards. (*Id.* at 8.)

D. Leighton Tech's Infringement Contentions

On November 21, 2006, Leighton Tech submitted its infringement contentions in the report of its technical expert Dr. David Everett. (Ex. 10.) In this report, Leighton Tech does not claim that the Amex and Xenon cards infringe because the chip is not protected by a non-electronic carrier. (See, e.g., *id.* at 8-9, 22-24.) Instead, it contends that these cards infringe because they allegedly have other unprotected “electronic elements,” such as the antenna and the antenna bridge that connects the antenna to the chip. (*Id.*)

Leighton Tech contends that the Amex cards infringe five claims in each of the Leighton Patents because the Amex cards contain “several electronic elements . . . including a chip, antenna, bridge connecting chip and antenna, antenna pads, and aluminum mounting pads for the chip.” (*Id.* at 7.) Of these elements, Dr. Everett believes that only the “antenna, antenna bridge, and mounting pads are positioned directly between plastic core sheets” (*Id.* at 8-9.)

With respect to the Xenon cards, Leighton Tech contends that those cards infringe five claims in the '155 patent. Dr. Everett stated that the Xenon cards and prelams “incorporate at least

one electronic element . . . including a chip, antenna, antenna bridge, [and] chip lead frame." (*Id.* at 21.) He further stated that the "antenna and antenna bridge are positioned directly between plastic core sheets," in the absence of a non-electronic carrier. (*Id.* at 22-24.)

Dr. Everett's report sets forth only a cursory reference to the doctrine of equivalents. For example, with respect to the '207 patent, Dr. Everett did not address the potential equivalence of any claim limitation. (*Id.* at 6.) Similarly, with respect to the '155 patent, Dr. Everett merely stated that "[i]n the event that it is determined that any element or limitation [in the '155 patent] does not literally exist in Oberthur's process, I believe that such feature or limitation may exist under the Doctrine of Equivalents . . . because Oberthur's process may perform the same function, in substantially the same way, to achieve substantially the same result as the process disclosed in the '155 patent." (*Id.* at 20 (emphasis added).)

III. THE RELEVANT LAW

The Summary Judgment Standard: Summary judgment is appropriate "when there is no 'genuine issue of material fact' and the undisputed facts warrant judgment for the moving party as a matter of law." *British Telecommunications PLC v. Prodigy Comm's Corp.*, 217 F. Supp. 2d 399, 402 (S.D.N.Y. 2002) (citations omitted). To defeat summary judgment, Leighton Tech must present "specific facts showing that there is a genuine issue for trial." *Id.* at 402 (citing Fed. R. Civ. Pro. 56(c)). While legitimate evidentiary inferences must be drawn in its favor, Leighton Tech cannot create a genuine issue of material fact merely by stating a fact is challenged. *See Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 835-36 (Fed. Cir. 1984); *see also Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1112 (Fed. Cir. 2000). Moreover, "[e]ven disputed material facts will not defeat summary judgment when, taking all factual inferences in favor

of the nonmovant, the moving party is nonetheless entitled to judgment as a matter of law.” *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1378 (Fed. Cir. 1998).

The Law of Infringement: Summary judgment of non-infringement “is appropriate if the court, drawing all reasonable inferences in favor of the patentee, concludes that no reasonable jury could find infringement.” *British Telecomms.*, 217 F. Supp. 2d at 402.

“Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device, i.e., when the properly construed claim reads on the accused device exactly.” *Amhil Enterprises Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996). If even a single claim limitation is not present in an accused device, there can be no literal infringement. *See Max-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1211 (Fed. Cir. 1998). In such a case, summary judgment of non-infringement is appropriate. *TM Patents, L.P. v. Int'l Bus. Mach. Corp.*, 121 F. Supp. 2d 349, 376-77 (S.D.N.Y. 2000).

With respect to the doctrine of equivalents, the Supreme Court recently stated that the doctrine “has taken on a life of its own, unbounded by the patent claims.” *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 28, 117 S.Ct. 1040, 1048-49 (1997). When applied too broadly, the doctrine interferes with the patent’s public notice function by preventing competitors from determining what particular claims cover. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 732-34, 122 S.Ct. 1831, 1837-38 (2002). Due to this concern, several principles limit as a matter of law equivalents to which a patent claim is entitled. *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1367 (Fed. Cir. 1999). For example, the doctrine cannot be applied so broadly that it would capture subject matter surrendered during prosecution, encompass prior art, or vitiate a claim limitation. If so, these limitations apply as a matter of law. *See Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1331-2 (Fed. Cir. 2001).

IV. ARGUMENT

A. Oberthur's Cards Do Not Literally Infringe the Leighton Patent Claims

Every asserted claim in the Leighton Patents requires positioning an electronic element directly between two plastic sheets in the absence of a non-electronic carrier. Oberthur's accused cards do not infringe because the electronic element therein is positioned directly between two core sheets in the presence of a non-electronic carrier.

1. Oberthur's Cards Do Not Infringe Because They Contain One Electronic Element That is Protected by a Non-Electronic Carrier

(a) The Chip and Associated Antenna in Oberthur's Cards Are One "Electronic Element"

The claims and specification of the Leighton Patents make clear that a "chip and associated antenna" – such as found in Oberthur's cards – are "one electronic element." Six dependent claims in the Leighton Patents make plain that a chip and associated antenna is "one electronic element." (Ex. 1, claims 14-15; Ex. 2, claims 11-13.) Moreover, as discussed, the patent specification has several examples of chip and antenna combinations that form "one electronic element."

Leighton Tech will certainly rely on the fact that the claims use the language "at least one electronic element" to mean that it must be possible to have more than one such element. It certainly is possible. There is no dispute that cards known as "hybrid cards have two chips – one that communicates using a contactless interface such as an antenna, and another that communicates using a contact interface." (Ex. 3, p. 1).² The two electronic structures are not interconnected, and thus are separate electronic elements. That is not what is found in Oberthur's cards.

² By stipulation, the parties have agreed that such cards are not at issue in the case because the sales volumes have been very small. Leighton Tech has reserved its right to assert infringement if the sales volume increases.

If the Court finds that a chip and an antenna are separate "electronic elements" under its *Markman* ruling, Oberthur respectfully requests that the Court amend its construction. As set forth above, the intrinsic evidence of the specification and claims of unmistakably set forth a chip and associated antenna as "one electronic element." *See Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1344 (Fed. Cir. 1998) ("[t]he actual words of the claim are the controlling focus").

(b) Oberthur's Electronic Element is Protected By a "Non-Electronic Carrier" – A Recess

There can be no dispute that the recess in Oberthur's cards is a non-electronic carrier. As discussed above, during prosecution Leighton represented that recesses such as those used by Oberthur are non-electronic carriers. For example, it told the Examiner of the '207 Patent that "[u]nlike anything shown in the prior art," its invention "eliminates the requirement of . . . a recess or other buffer zone formed in one or more of the card layers for carrying and protecting the electronic element" (Ex. 9, at 6.) Also, during the *Markman* hearing, the Court confirmed that "[t]he recess is the nonelectronic carrier." (Ex. 8, *Markman* Tr. 64:4-14.) Named inventor Leighton has also taken the position that his invention is "unique" because he does not cut recesses, which he called "windows/cavities." (Ex. 22; *see also* Ex. 23, Leighton 10/23/06 Tr. 839:5-16; Ex. 24, Leighton 10/9/05 Tr. 160:15-161:5)

In spite of this, Leighton Tech's technical expert has concocted an infringement argument by dividing the electronic element in Oberthur's cards into separate elements. For the Amex cards, Mr. Everett asserts that the card contains five electronic elements: the "chip, antenna, bridge connecting chip and antenna, antenna pads, and aluminum mounting pads for the chip." (Ex. 10, at 7.) For the Xenon cards, Mr. Everett asserts that the cards contain four electronic elements: the "chip, antenna, antenna bridge, [and] chip lead frame." (*Id.* at 21.) There is no mystery why Mr. Everett does this –

he knows full well that if the cards have one electronic element there can be no infringement because that element is held and protected by the recess in the card.

Contrary to the positions taken by Leighton's expert, the recess in Oberthur's card protects all of the electronic elements even if they are taken to be separate. Experiments designed by Oberthur's expert, Dr. Kazmer, also demonstrate that the recess in its cards is a non-electronic carrier. In these experiments, Amex cards and Xenon prelams with and without recesses were laminated, and then tested to determine if the electronics therein still worked. (See the Declaration of David Kazmer, ¶¶ 26-32, submitted in support of Oberthur's motion.) In the Amex cards and Xenon prelams without a recess, 86% and 74% of the electronics did not work after lamination, respectively. (*Id.*) By contrast, in the Amex cards and Xenon prelams with a recess, only 1% and 3% of the electronics did not work after lamination, respectively. Although the Court need not rely on the results of these tests to decide this motion, they further confirm that the recess is a non-electronic carrier protecting all electronic elements.

In any case, there is no requirement in the Leighton Patents claims, or in this Court's claim construction, that the non-electronic carrier "hold" and "protect" the *entire* electronic element. Because the recess in Oberthur's card protects some portion of the electronic element, Oberthur's cards do not infringe because they have a non-electronic carrier.

(e) Leighton Tech's Contention That a Protected Chip and an Unprotected Antenna Infringe Ignores the Disclosures of the Prior Art

The prior art discloses the use of a non-electronic carrier to protect an electronic element (a chip and associated antenna). The non-electronic carrier disclosed in the prior art, a recess, only protects the chip, and does not protect the antenna. The limitation in the claims of the Leighton Patents that a non-electronic carrier be absent "is the critical improvement of [the Leighton] patents over [the] prior art . . . which required protection for the electronic element during lamination."

Leighton, 358 F. Supp. 2d at 369. If a card with a protected chip and an unprotected antenna infringes the claims of the Leighton Patents, as Leighton Tech contends, then those claims are invalid because the “critical improvement” of the claims would admittedly be present in the prior art. *Evans Medical Ltd. v. American Cyanamid Co.*, 11 F. Supp. 2d 338, 352 (S.D.N.Y. 1998), *aff’d*, 215 F.3d 1347 (Fed. Cir. 1999) (unpublished) (“claims should be interpreted, if possible, so as to preserve their validity.”)

Oberthur’s cards have the same type of protective structure as that disclosed in the prior art. For example, U.S. Patent No. 5,880,934 (the “‘934 patent”) discloses a contactless card wherein the antenna “coil 7 is disposed on inner layer 11” that “has suitable opening 3 for receiving [chip] module 6.” (Ex. 6, 3:58-60.) As shown below, just as in Oberthur’s cards, the cards disclosed in the ‘934 patent have an opening (item 3, below) for the chip module (item 6):

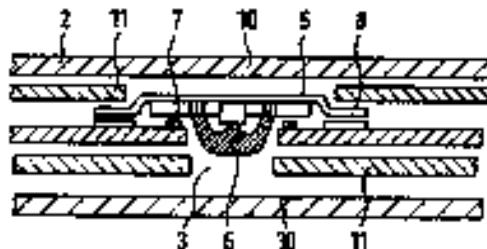


FIG. 4

This reference also discloses that the antenna coil (number 7 in the above figure) is located directly between two plastic sheets without any protection. The overall location of the antenna is depicted in Figure 3 of the ‘934 patent:

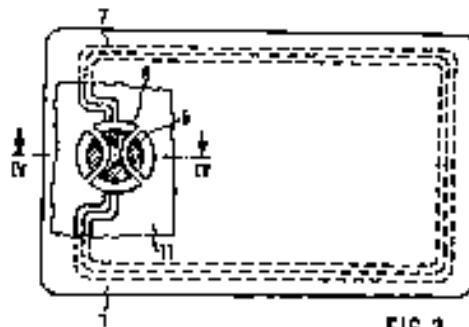


FIG. 3

Similarly, International Patent Application Publication Number WO 88/08592 (the “‘592 application”) discloses a laminated contactless card wherein the chip is protected by a recess. Specifically, it “contemplate[s] the existence of a hole [12] in a core layer [14] or at least in an opposing relatively thick layer [18] into which the circuit die [10, the micro-chip] is inserted”:

FIG. 1

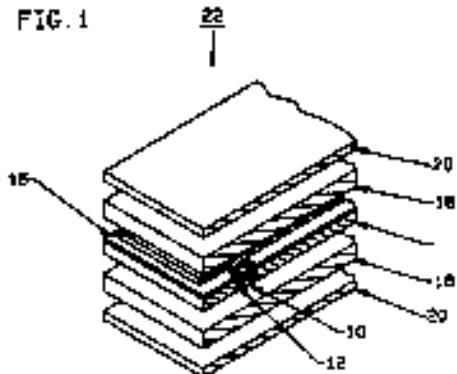
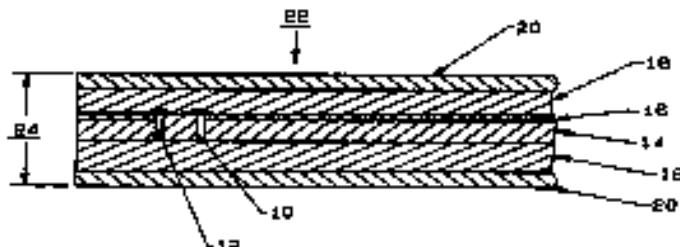


FIG. 2



(Ex. 7, 24:6-9.) The ‘592 application also discloses that the antenna (item 16) is placed directly between two plastic sheets (items 14 and 18) without any protection. (See *id.* at 14:24-15:13.) Plainly the Oberthur structure Leighton accuses of infringement was well known in the art.

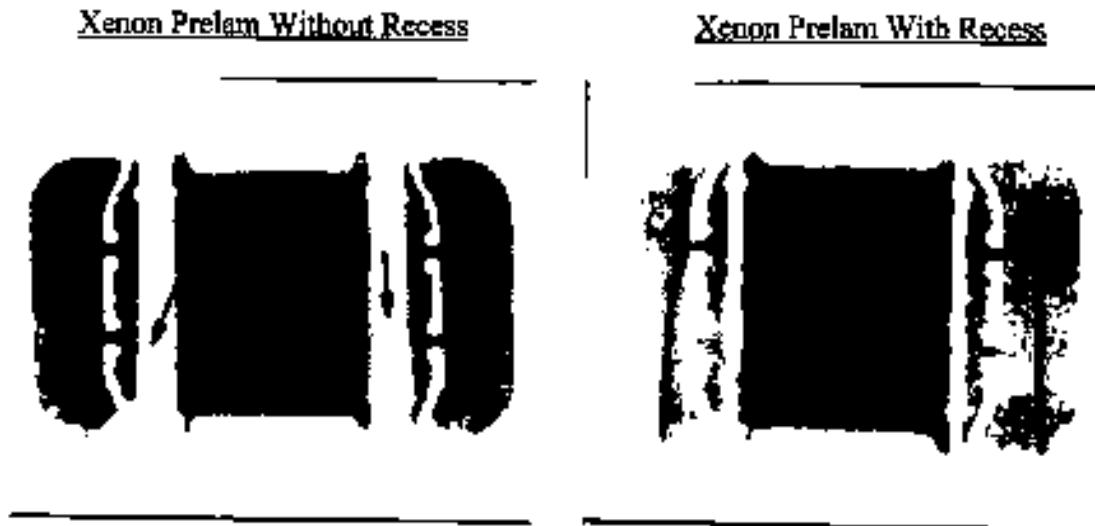
2. Even If Oberthur’s Chip and Antenna Are Not One Electronic Element, Oberthur’s Cards Still Do Not Infringe

As shown above, Oberthur’s cards do not infringe any claims of the Leighton Patents. However, even if this Court concludes that the chip and antenna in Oberthur’s cards are separate electronic elements, Oberthur’s cards still do not infringe.

(a) The Recess in the Two Types of Oberthur Cards (the Amex and Xenon Cards) Protects Both the Antenna and the Chip

There is no infringement because the recess in Oberthur’s cards protects the connection between the antenna and the chip. (See Kazmer Decl., ¶¶ 37-39.) The recess in the Amex cards is directly above, and will therefore protect, part of the connection between the chip and antenna. (*id.*; Ex. 28.) Similarly, the recess in the Xenon prelams also protects the connection between the chip and the antenna. As shown by the sample x-ray pictures below of laminated Xenon prelams with

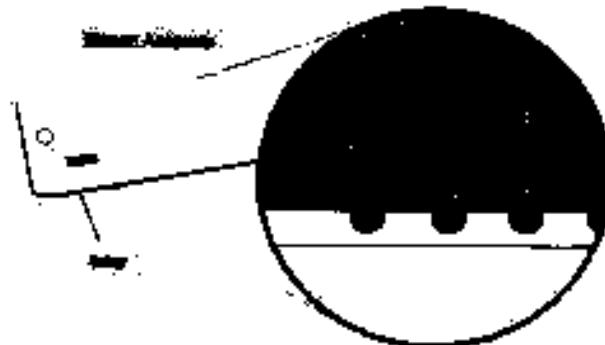
and without a recess, the highlighted connections between the chip (in the middle) and the two antenna leads are broken when a recess is not used (*Id.* at ¶¶ 38-40.):



(b) The Antennas in Oberthur's Cards Fall Outside the Leighton Patent Claims

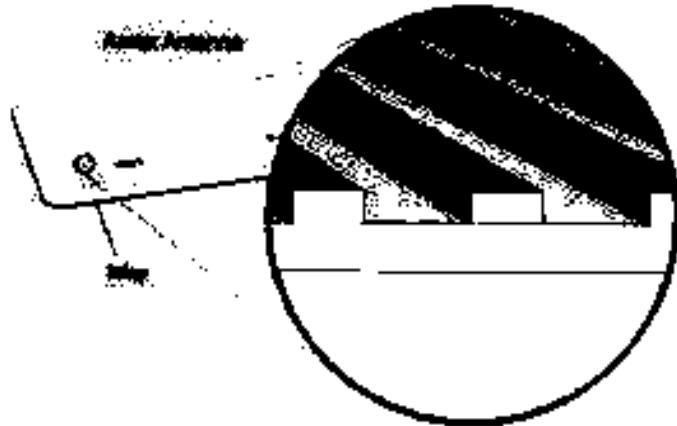
The two types of Oberthur cards accused of infringement contain different types of antennas that fall outside the Leighton Patent claims for different reasons, discussed below.

The Antenna in the Xenon Cards Is Also Protected By a Non-Electric Carrier. The embedded antenna in the Xenon prelams is also protected by a non-electronic carrier. Before lamination of the prelams, the wire antenna is embedded into the inlay sheet using an ultrasonic device which rapidly rubs the wire antenna against the inlay. (Ex. 27, at 5, 6.) The rapid vibration of the antenna melts the inlay and embeds the antenna into the inlay sheet, as shown below (*Id.*):



The embedded antenna receives less pressure during lamination, and is also held and protected by the sheet in which it is embedded. (Kazmer Decl., ¶ 41.)

The Antenna in the Amex Cards Needs No Protection. The aluminum antenna in the Amex card does not require protection. As shown by the following depiction, the antenna in the Amex card is a flat, solid strip of aluminum that, unlike the chip, contains no delicate circuitry.



As a result the antenna can withstand greater pressures during lamination without being damaged. There is no need for any non-electronic carrier protection. Accordingly, Leighton Tech cannot assert infringement, even if it is correct that the antenna is a separate electronic element. (*Id.* at ¶ 40.)

3. Oberthur's Cards Do Not Infringe Because the Electronic Element is Not Placed "Directly Between" the First and Second Plastic Core Sheets

The Leighton Patent claims also require that the electronic element in an infringing device be placed "directly between" two plastic core sheets. This Court construed the terms "directly" to mean "in immediate physical contact." *Leighton*, 358 F. Supp. 2d at 377. Oberthur's cards do not infringe because the electronic element is not in immediate physical contact with the plastic core sheets located above and below this element.

Before lamination, the chips in Oberthur's cards are positioned directly below a recess. (Ex. 10, at 3, 5, 7.) As a result, the top portion of the electronic element in Oberthur's cards is not in immediate physical contact with any plastic layer. (*Id.*) Instead, a buffer zone of air exists above it. As discussed above, Oberthur positions the electronic element in its cards in exactly the same manner as the prior art '934 patent and '592 application. For these reasons, and as confirmed by Oberthur's expert, Dr. Kazmer, the electronic element in Oberthur's cards is not positioned directly between two plastic layers. (Kazmer Decl. ¶ 42.)

Oberthur's Amex cards also do not infringe this claim limitation because the top printed layer and the IR blocker layer, which are located on either side of the inlay layer with the electronic element, each contain an adhesive layer that is .001 inches thick. (Ex. 10, at 2-3.) As set forth in the parties' stipulation, this adhesive is located between these layers and the inlay layer. (*Id.*) Accordingly, with the exception of the top portion of the electronic element, which before lamination does not touch anything, the other portions of the electronic element in the Amex card would contact only the adhesive prior to lamination, and so could not be in immediate physical contact with the two plastic core sheets. (Kazmer Decl. ¶ 43.)

The chips in the Xenon cards are surrounded by an epoxy resin that fills the gaps created by the recesses in the top layer and in the inlay layer. (*Id.* at 6-7.) Like the adhesive in the Amex cards, this epoxy prevents the electronic element in the Xenon cards from directly contacting the top and bottom overlaminated layers. (Kazmer Decl. ¶ 44.) For this additional reason, the Xenon cards also do not satisfy this claim limitation.

B. Oberthur's Cards Do Not Infringe Under the Doctrine of Equivalents

It would directly contradict the Federal Circuit authority cited above to conclude there is infringement under the doctrine of equivalents based on any assertion by Leighton Tech that the

differences between Oberthur's cards and the asserted claims are insubstantial. As a preliminary matter, Leighton Tech's expert report sets forth no such analysis. Moreover, the differences are strikingly different because Oberthur's cards have exactly the opposite structure from the non-electronic carrier and direct contact requirements in the claims. *Moore U.S.A.*, 229 F.3d at 1112.

The Doctrine of Claim Vitiation. In direct contradiction of the authority cited above, Leighton Tech's infringement contentions vitiate two claim limitations: (1) that an electronic element be positioned "directly between" (i.e., the card in immediate physical contact with) two core sheets, (2) that "in the absence of a non-electronic carrier" the card "holds an electronic element and protect[s] it from physical damage during lamination." In Oberthur's cards, the electronic element is positioned between two plastic sheets in the presence of a protective carrier. As a result, the top of the element (the chip) does not physically contact both plastic sheets. Clearly, "[t]he opposite of a claim limitation cannot be considered its equivalent." *British Telecomm.*, 217 F. Supp. 2d at 412.

It would violate the doctrine of claim vitiation to conclude that the presence of a carrier in Oberthur's cards is an insubstantial change to a claim limitation requiring the absence of such a carrier, or to conclude that no physical contact between the electronic element and core sheets in Oberthur's cards is an insubstantial change to a claim limitation requiring direct contact. See, e.g., *Freedman Seating Co. v. American Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005) (a limitation requiring that a support member be "slidably mounted" would be vitiated if found to be equivalently present in the accused device, whose support member could not slide or otherwise move.)

Prosecution History Estoppel. The doctrine of prosecution history estoppel "prevents a patent owner from relying upon the doctrine of equivalents when the patent applicant relinquishes coverage of subject matter during the prosecution of the patent, either by amendment or argument." *British Telecomm.*, 217 F. Supp. 2d at 417. If a claim is narrowed during prosecution for any

reason related to patentability, then a presumption arises "that the patentee surrendered the territory between the original claims and the amended claims." *Glaxo Wellcome, Inc. v. Impax Labs, Inc.*, 356 F.3d 1348, 1352 (Fed. Cir. 2004).

In order to distinguish prior art that disclosed a non-electronic carrier for protection, Leighton (1) amended his claims during prosecution to require that a "non-electronic carrier" be "absent," and (2) argued that no "protective elements are desired or necessary to the invention of the present application." (Ex. 4, *Leighton*, 358 F. Supp. 2d at 369; Ex. 9, at 6.) Leighton also distinguished his patents from the prior art on the basis of the "directly between" limitation – he represented that "unlike anything shown in the prior art, the electronic unit [in his invention] is placed directly between two (2) plastic sheets." (Ex. 9, at 6.)

Leighton Tech is therefore estopped from arguing that these two elements are equivalently present in Oberthur's cards, which use the same protective structure disclosed in other prior art to the Leighton Patents. *Scimed Life Systems, Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1345 (Fed. Cir. 2001) ("[H]aving specifically identified, criticized, and disclaimed the . . . configuration [accused of infringement], the patentee cannot now invoke the doctrine of equivalents to embrace a structure that was specifically excluded from the claims.")

V. CONCLUSION

For the foregoing reasons, Oberthur respectfully requests that its motion for summary judgment of noninfringement be granted.

DATED: November 29, 2006

QUINN EMANUEL URQUHART OLIVER &
HEDGES, LLP

By: /s/ Kevin P.B. Johnson
Kevin P.B. Johnson (KJ-8689)

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/s/ Edward J. DeFranco (ED-6524)